EXPLANATORY NOTE

This paper necessarily assumes an understanding of the technical terms commonly used in insurance. Those not familiar with the subject will do well to bear in mind the following:

A life insurance company furnishes to its patrons, for a consideration known as a *premium,* a guarantee that their estates or beneficiaries shall be indemnified for specified sums of money, in the event of their deaths within a given time. A reliable mortality table enables the company to ascertain mathematically the cost of a risk at each year of age. The premiums exacted would therefore ascend year by year on account of the increased rate of mortality at the higher ages. Such *yearly renewable* policies are little employed, it being found undesirable and inconvenient to have the rate rise till it becomes ultimately prohibitive, causing the lapsing of the policy. The costs at each age to the limit of the table are therefore separately ascertained, each being discounted to the present value. The sum is the *net single premium.* This is divided by a *life annuity,* or series of *pure endowments* (sums payable by the policyholder upon surviving to each successive age), in order to arrive at a *level premium* or uniform rate, to be paid annually. This rate is thus adjusted on the one hand to the yearly probabilities of having to pay the claim, and on the other hand to the yearly probabilities that the policyholder will survive to pay the premiums. To the net level premium is added a *loading* for expenses, and possibly for contingencies. The net level premium, as increased by the loading, becomes the *gross level premium,* or the actual amount periodically paid by the policyholder to maintain the insurance. The company *values* its liabilities for future claims by subtracting the *present value of future premiums* from the *present value of future claims.* This difference is called the *reserve. Net valuation,* which is most common, consists of taking the pres-

ent value of future *net* premiums only from the present value of future claims. The larger reserve which this gives is justified upon the assumption that future loadings are needed for future expenses. After paying current expenses and death claims, and laying aside the proper amount for reserve, the remaining funds in hand constitute the *surplus,* a small part of which is retained from year to year, and the remainder is returned to the policyholders in the form of *dividends.*